

March 20, 1950

Dr. H. J. Muller
Science Hall 101
Indiana University
Bloomington, Indiana

Dear Dr. Muller:

I was very pleased to note that we are in accord concerning the need for a comprehensive attack on the problems and social implications of chemical mutagenesis.

Although there can be no question of the need for continuing support of fundamental research on the chemical as well as the physical mutagens, in my letter I had in mind a program of a somewhat more applied nature. To my mind, the mutagenic activity of several chemicals is already incontrovertible. At least three of the compounds which have been shown to possess mutagenic activity for *Drosophila* are already in use as therapeutic agents to some extent. In the form of Urotropine, or hexamethylene tetramine, formaldehyde has been used rather widely in the treatment of cystitis and other urinary infections; nitrogen mustard is, of course, an important chemotherapeutic agent in the management of leukemia; and allyl isothiocyanate is the active ingredient of the familiar mustard plaster. Need we go any further in the study of mutagenic effects at so-called "inbetween" levels of organisms to justify the necessity for large scale work on mammals, which should provide the necessary information for the possible role of such chemicals in human affairs? It is precisely because the program of genetic research, sufficiently comprehensive to give us detailed information, will be so expensive that I felt the need to call upon the National Research Council to study the problem. I had in mind that the NRC might first set up a study committee which might then be in a position to recommend any further action. Once some concern for this aspect of applied genetics is disseminated it might then be time to push for a large scale support of mutation work in general, but I have the feeling that it might be more important to determine whether or not we are facing a critical problem at the present time.

I do not feel that it would be advisable to attempt to coordinate fundamental research on mutation in the direction of this problem. However, ~~the~~ any attempt to do such work with mammals is obviously going to be so expensive that it likely to be beyond the scope of any existing institution, and it is at this level primarily that an organization such as the NRC might most feasibly act.

Unfortunately, I can see nothing in prospect that would make a fuller private discussion with you convenient, but unless there is something about this matter with which I am not familiar, I can't see that a few weeks delay will be very critical. It might be worth while to use this interval to let the notion "simmer" in Dr. Cleland's mind, and I'm looking forward to seeing you at the next Virus Seminar which will probably be held sometime early in May, possibly on this campus. If the seminar is held here, would you be able to attend? If not, that might be sufficient reason to withdraw that proposal.

Yours sincerely,

Joshua Lederberg
Assist. Prof. of Genetics